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ABSTRACT

As part of the National Evaluation of School-to-Work implementation based on the School-to-Work Opportunities Act (STWOA) of 1994, a study used student surveys and site visits in eight states to determine types and numbers of student participation in work-based activities and the quality of internships that students obtain through school. The findings include the following: (1) most students participate in brief worksite observation activities, and these activities appear to be growing; (2) extended internships involve fewer students and do not appear to have increased; (3) work-based activities attract a diverse mix of students, with female students more likely than males to participate; (4) noncollege-bound students are more likely to obtain paid internships, while college-bound students are more likely to secure unpaid internships; (5) students find internships and job-shadowing experiences helpful in clarifying career goals; (6) schools' paid and unpaid internships are more diverse and offer more learning opportunities than the positions students find on their own; and (7) there is a mixed pattern of changes in students' experiences of paid and unpaid internships. Recommendations to enhance work-based learning opportunities include connecting work-based activities more closely with the school curriculum; developing internships that involve a moderate amount of time at the workplace; developing workplace activities in settings that appeal to male students; and increasing public appreciation of the potential benefits of work-based learning. (Contains 11 references.) (KC)

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Schooling in the Workplace: Increasing the Scale and Quality of Work-Based Learning

Final Report

January 22, 2001

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EXECUTIVE SUMMARY

During the 1990s, the federal government sought to expand and enhance work-based learning opportunities for high school students. The School-to-Work Opportunities Act (STWOA) of 1994 authorized "seed money" grants to partnerships of local schools and employers to sponsor a variety of activities designed to help students learn about and prepare for careers. Although federal officials decentralized program control by giving School to Work (STW) partnerships discretion in deciding which kinds of career-focused activities to emphasize, STW advocates viewed the expansion of work-based learning as a central objective of STWOA. These advocates ambitiously hoped to make work-based activities widely available, arguing that all high school students--regardless of their goals or level of academic achievement--could benefit from some type of work-based learning experience.

While the legislation encouraged partnerships to develop both brief and more extended work-based activities, it placed the greatest emphasis on extended internships. The Act suggested that, at minimum, partnerships should offer students internships that involve a "planned program of job training and work experience" coordinated with the classroom curriculum. This intensive model of work-based learning resembled the "youth apprenticeship" demonstrations of the early 1990s, which were designed to develop students' technical, problem-solving, and academic skills (Pauly et al. 1995; and Silverberg 1996). In addition to these extended internships, STWOA permitted partnerships to use federal funds to support the development of two other "permissible" work activities: (1) "job shadowing" visits to worksites to learn about the jobs of employees; and (2) "school-based enterprises"--that is, student-run businesses, such as a school store, restaurant, or bank.

The features of the national STW initiative--ambitious participation goals, decentralized management, and modest federal funding--prompt questions about whether and how it has affected students' work-based learning experiences. The specific kinds of workplace activities schools choose to develop can affect both the types of learning opportunities available and the number and mix of students who take advantage of those opportunities. Because extended internship programs often require a substantial commitment from students, employers, and school staff, these programs are often small and are sometimes limited to vocational students. By contrast, brief worksite observation activities, such as job shadowing, can more easily be implemented on a large scale. Since they are brief, however, these activities usually offer narrower learning opportunities focused mostly on exposing students to specific occupations.

The National Evaluation of School-to-Work Implementation provides a basis for assessing how students' involvement in work-based activities is changing. This ongoing evaluation includes surveys of multiple cohorts of students, surveys of partnership coordinators, and site visits. This report, part of a series of evaluation reports, draws largely on the student surveys and site visits conducted in eight states and focuses on three broad questions:

1. How many students participate in work-based activities, and to what extent is participation in specific activities growing?

2. Which groups of students are most likely to participate in work-based activities?

3. What is the quality of the internships that students obtain through school?

The key findings relating to each of these questions are summarized below.

How Many Students Participate in Work-Based Activities?

- **Most students participate in brief worksite observation activities, and these activities appear to be growing.**

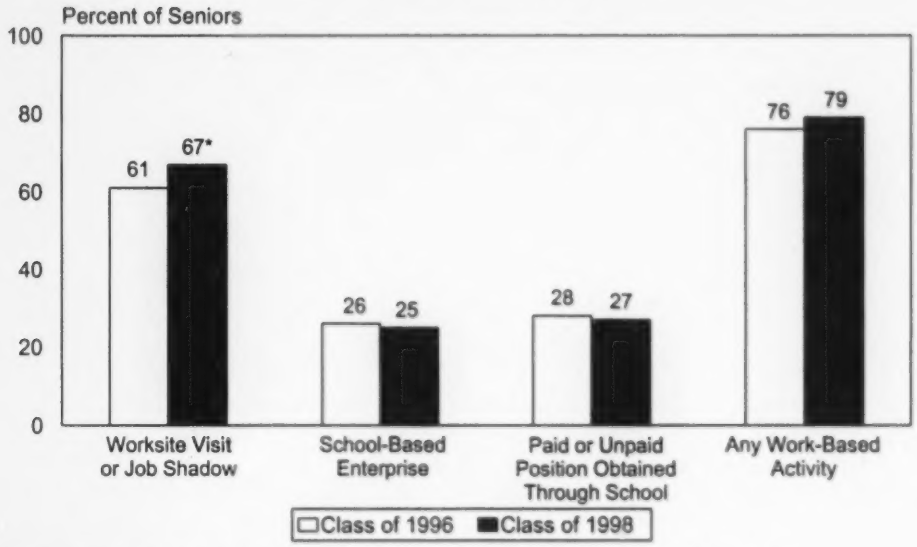
Brief worksite observation activities have a broad appeal. Group worksite visits and individual job-shadowing experiences typically last only a few hours and hence are easy for employers and schools to organize. Parents and school staff often find worksite observation activities attractive, because they give students some exposure to the world of work but take little time away from school or after-school activities. Sensing that job shadowing might benefit and attract large numbers of students, the National School-to-Work Office established National Job Shadowing Day. Other initiatives, such as "Bring Our Daughters to Work Day," sponsored by the Ms. Foundation for Women, also gained momentum during the mid 1990s and encouraged more students to participate in job shadowing.

The popularity of job shadowing and worksite visits is reflected in the large and growing number of students involved (Figure 1). These types of worksite observation activities were popular even before schools began implementing their STW initiatives: in the eight survey states, more than three out of five seniors in the class of 1996 had participated in at least one of these two worksite observation activities during high school. Two years later, more than two-thirds of class of 1998 seniors reported participating in a worksite observation activity. Most of the growth was due to the expansion of job-shadowing activities (rather than group worksite visits), which grew by about one-third, from 25 to 34 percent of students (not shown in figure).

- **Extended internships involve fewer students and do not appear to have grown.**

Intensive work-based learning activities have engaged fewer students and do not appear to have grown recently (Figure 1). Visits to STW partnerships, as well as other recent research, suggest that two factors are constraining the growth of internships. First, both schools and employers can incur substantial costs in developing these positions, particularly those that offer structured learning opportunities that relate to students' classroom experience. Second, some educators and parents are concerned that work-based learning can sometimes curtail the time available for students to spend on their academic studies. This issue relates to a broader concern that American high school students spend more time working at jobs than do their peers in most other industrialized nations.

FIGURE 1
STUDENT PARTICIPATION IN WORK-BASED ACTIVITIES
CLASSES OF 1996 AND 1998



SOURCE: STW 12th-grade student survey, spring 1996 and spring 1998, Mathematica Policy Research, Inc.

* The difference between the class of 1996 and class of 1998 is significant at .05 level, two-tailed test.

The evidence available from the STW student survey and other studies suggests that only the students in the most time-consuming internships and jobs perform worse at school than those who do not have any workplace position. About two-thirds of the jobs and internships that students hold during the school year involve less than 20 hours of work per week. Students holding positions with these moderate hours have cumulative GPAs in the 12th grade that are just as high on average as the GPAs of those who do not work at all (even after we control for students' background characteristics and class rank in 9th grade). About a third of those with jobs or internships work more than 20 hours a week, and this group tends to perform slightly worse than their peers. This association, however, may or may not reflect the negative effects of working long hours on academic achievement; another interpretation is that students who have already become disengaged from school tend to accept more time-consuming jobs. Nevertheless, this pattern may reinforce the perception among some educators that jobs and internships can interfere with students' studies. To build support for work-based learning, program staff may need to avoid developing internships that are very time consuming or that interfere with students' class schedules.

WHICH STUDENTS ARE MOST LIKELY TO PARTICIPATE IN WORK-BASED ACTIVITIES?

- **Work-based activities attract a diverse mix of students.**

A key objective of the STW movement is to engage diverse students, including those with varying levels of academic achievement. This aim reflects both the conviction that all students can benefit from workplace activities and the interest in avoiding a stigma traditionally associated with many vocational programs. In fact, even before to the implementation of most schools' STW initiatives, schools succeeded in involving a fairly diverse mix of students in workplace activities.

While schools have achieved diversity, participation rates in specific work-based activities do vary by subgroup. Participation rates are generally highest among female students, African Americans, and vocational concentrators (Table 1). However, the intergroup differences in participation rates are not very large.

- **Female students are more likely than males to participate in most workplace activities.**

Although STW initiatives generally seek to involve male and female students in workplace activities, the student survey suggests that a somewhat larger fraction of female students participate. The largest and most statistically significant gender gaps pertain to unpaid internships, but female students also have higher rates of participation in paid internships, job shadowing, and school-based enterprises. These differences in participation rates are potentially important, because they may be related to other emerging gender differences, such as the relatively high rate at which female students formulate career goals and articulate them to school staff. For example, a larger fraction of female students (61 percent) than male students (51 percent) reported having specified a career goal to school staff during high school. In general, students articulating a career goal are somewhat more likely to participate in work-based activities.

Female students' higher rates of participation in work-based activities may be both a cause and a consequence of their willingness to specify and articulate career goals. The ability and willingness of female students to specify a career goal may make it easier for staff to place them in a relevant and attractive work-based activity. In addition, female students' work-based experiences may help them formulate career goals.[1] Educators may need to explore new strategies for attracting male students to activities designed to help them specify and pursue career goals.

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[1]In addition, female students are somewhat more likely than male students to express interests in career areas, such as health, for which some schools have well-developed internship programs. Among those articulating any career goal to school staff, about 34 percent of female students expressed an interest in health or medicine, compared with only 10 percent of male students. Students of both genders who expressed an interest in health had high rates of participation in internships (particularly unpaid internships) and in job-shadowing activities.

TABLE 1

PERCENTAGE OF STUDENTS PARTICIPATING IN WORK-BASED ACTIVITIES, BY SUBGROUP

Variable/Subgroup	Paid Positions Obtained Through School		Unpaid Positions Obtained Through School		Job Shadowing or Worksite Tour		School-Based Enterprise	
	Class of 1996	Class of 1998	Class of 1996	Class of 1998	Class of 1996	Class of 1998	Class of 1996	Class of 1998
All Students	15.0	13.0	16.4	17.0	61.5	67.2**	25.5	25.1
Gender								
Male	14.1	11.4*	12.5*	12.9*	61.3	66.0	24.0	22.6
Female	15.8	14.6	19.9	20.7	61.7	68.2	26.9	27.4
Race/Ethnicity								
African American	21.4*	19.6*	19.4	13.8	61.1	74.4*	30.2	28.5
Hispanic	14.4	16.8	16.3	19.9	55.4	56.8	25.4	23.6
White/other	13.8	11.3	16.0	17.3	62.3	66.7	24.9	24.5
Students' College Plans								
Four-Year College	12.6*	10.3*	18.3	19.5*	61.2*	68.8	25.0	25.6
Two-Year College	16.8	12.4	14.8	14.9	56.1	64.0	26.9	24.8
No College	16.6	18.2	14.5	14.7	66.1	67.7	25.5	24.7
Vocational Concentrator								
Yes	21.8*	18.2*	16.9	15.4	70.9*	78.7*	31.6*	29.1
No	12.7	11.4	17.0	17.9	60.4	65.9	25.2	24.8
Sample Size	**2,203**	**2,300**	**2,203**	**2,300**	**2,203**	**2,300**	**2,203**	**2,300**

SOURCE: STW 12th grade survey, spring 1996 and spring 1998, Mathematica Policy Research, Inc.

*Significant differences in the percentage participating across subgroups, at the .05 level, two-tailed test.

**Significant differences in the rate of participation *growth* from the class of 1996 to the class of 1998, at the .05 level, two-tailed test.

- **Students who do not plan to attend college are most likely to obtain paid internships, while college-bound students are more likely to secure unpaid internships.**

Many of the largest and most established work experience programs--including school co-op programs--traditionally attract students who do not plan to attend college. These programs often are designed to serve students interested in obtaining jobs, including positions that might continue after students graduate. This pattern is reflected in the responses of the class of 1998: students who had no concrete plans to attend college during the year after high school were more likely than college-bound students to report participating in a paid job or internship they obtained through their school. Among those who had some paid position during the school year, 23 percent of students with no plans to attend college obtained their jobs through school, compared with 17 percent of those bound for two-year colleges and 15 percent of those with plans to attend four-year colleges.

African American students have somewhat higher rates of participation in paid internships than whites, a difference that may be due partly to the racial gap in college enrollment rates. About 20 percent of African American students had a paid internship, compared to only 11 percent of their white peers. This pattern could be due to the fact that only about two-thirds of African American students had concrete plans to attend a two- or four-year college, compared to three-quarters of their white peers. However, even among students planning to attend college, a larger fraction of African Americans (16.3 percent) than whites (9.5 percent) were involved in paid internships.[2] African American students also had lower overall employment rates than white students, which suggests that paid internship programs may provide employment opportunities to some African American students who might otherwise have difficulty finding jobs.

College-bound students and those with high GPAs are somewhat less likely than other students to obtain a paid job through school but more likely to have unpaid work experiences. College-bound students were more likely than other students both to secure unpaid internships developed by school staff and to find these types of internships through other means. This pattern may reflect differences in the backgrounds or ambitions of high-performing and low-performing students. Male students who did not plan to attend college had the lowest rates of participation in unpaid internships, which perhaps reflects these students' lack of interest in opportunities to explore careers or provide a community service.

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[2]Indeed, even after controlling for school effects and a variety of background characteristics (including parents' education levels, welfare receipt, grades, and urbanicity), African American students are more likely to obtain a position through school. (These statistical analyses did not control for family income or social networks.)

WHAT IS THE QUALITY OF STUDENTS' WORK-BASED ACTIVITIES?

- **Students generally find internships and job-shadowing experiences helpful in clarifying career goals.**

Work-based learning activities can help students clarify career goals in both positive and negative ways. Some activities may confirm a tentative interest in a career. Others may lead students to reconsider a goal or assumption about their future. To inform students' decisions either way, work activities usually must provide a clear sense of what it is like to work in a particular job, occupation, or industry. A postsecondary follow-up survey of the class of 1998 sheds light on the work-based activities that high school students perceived to have been helpful in clarifying their career goals. Respondents were asked about the value of various high school activities in helping them to decide what kinds of careers interested or did not interest them.

The most highly valued work-based learning activities appear to be those that involve an experience tailored to the individual student.[3] Students gave high marks to job shadowing, as well as to paid jobs and unpaid internships obtained through school. In contrast, two other work-based activities--group worksite tours and school-based enterprises--were viewed as somewhat less helpful in clarifying career goals. These findings suggest that, to get a sense of the kinds of jobs available in an industry and to clarify their goals, students may benefit most from individualized experiences and, perhaps, some one-on-one contact with an adult employee (which worksite tours and school-based enterprises rarely provide). Internships and job-shadowing experiences may also engage students more fully, as students often help plan the activity and report on their experience after it is completed.

- **Schools' paid and unpaid internships are more diverse and offer more learning opportunities than the positions students find on their own.**

The paid and unpaid internships schools offer students appear to have some important qualitative advantages over the positions students find on their own. Based on the work experiences reported by students in the class of 1998, several advantages of the positions they obtain through school are evident (Figure 2). Specifically schools' internships are more likely than students' regular jobs to:

1. Be in diverse industries, which increases the chances that students can work in settings relevant to their career interests.

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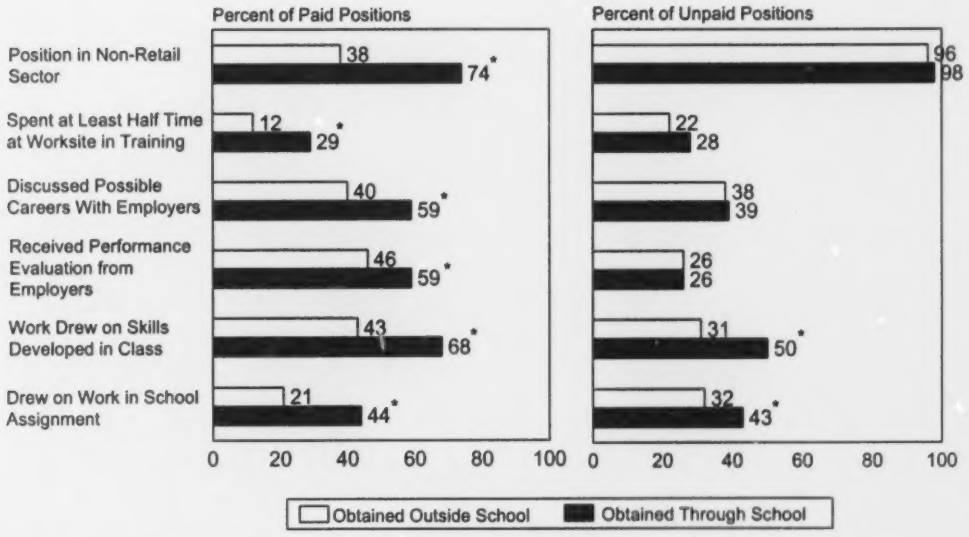
[3]Findings on students' ratings of the value of work-based activities should not be interpreted as indicating which activities they favor over others. Each type of activity engaged students at different rates, and only those who participated rated each activity. The fact that few students participated in an activity but rated it highly does not necessarily imply that the activity deserves more emphasis from partnerships than another activity that involved far more students who praised it only moderately.

FIGURE 2
LEARNING OPPORTUNITES IN WORKPLACE EXPERIENCES
CLASS OF 1998



SOURCE: STW 12th-grade student survey, spring 1998, Mathematica Policy Research, Inc.

* Difference between the positions obtained outside school and through school is significant at .05 level, two-tailed test.

2. Involve a substantial amount of training and some opportunities to discuss career issues with employer staff.

3. Offer some feedback on students' worksite performance.

4. Make use of skills students learned in school or provide experiences that students draw on in school assignments.

These advantages of schools' internships appear to be robust in the sense that they are not attributable to differences between the mix of students who secure positions through school and those who find their own job or internship. One might posit that the apparent advantages of schools' internships over the positions students find on their own may simply be a reflection of the high motivation levels or other distinctive characteristics of the students who secure internships through school staff. However, regression analysis suggests that this is not the case. Controlling for the background characteristics and prior academic achievement of students who secure positions through school does not affect the magnitude or significance of the qualitative advantages of schools' internships.[4]

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[4]These regressions controlled for school effects and a variety of student background (continued...)

- **The qualitative advantages of schools' internships are most apparent for female students, vocational concentrators, and those with lower levels of academic achievement.**

The "value added" of schools' internships can vary for different students. School staff often develop work activities to meet students' individual needs and interests. Moreover, the relative advantages of the positions schools develop depend on the kinds of work activities students can secure without assistance from school staff. We estimated the value added of schools' internships for specific groups of students by comparing the quality of their internships with the positions they find on their own.

The advantages of schools' positions are more apparent for three groups: female students, vocational concentrators, and students with low levels of academic achievement. Female students appear to be more likely than males to use school internship programs as an avenue to work in diverse industries. Although female students in the class of 1998 were more likely than males to have regular jobs in the retail sector, female interns were more likely than male interns to work outside retail. This pattern is potentially problematic: missing opportunities to expose male students to diverse jobs may be contributing to the small fraction of males who specify a career goal during high school. Vocational concentrators were more likely than other students to draw on their internship experiences at school and discuss careers with employers; this is not surprising, since many vocational programs encourage students to participate in internships linked to a class. Students ranking in the bottom half of their 9th-grade class were more likely than their higher-achieving peers to increase their chances of receiving a substantial amount of on-the-job training when they obtained their position through schools rather than independently. In addition, among those with unpaid positions, these low-performing students were more likely than others to receive evaluations on their worksite performance from employers or school staff and to have their internships count toward course grades. Internship programs that tend to attract lower- achieving students may be designed to provide more structured training and feedback to students than programs that involve higher-performing students.

- **Despite efforts to enhance the quality of work-based learning activities, there is a mixed pattern of changes in students' experiences of paid and unpaid internships.**

Site visits to STW partnerships identified many efforts to strengthen traditional work experience programs or to create new programs with high-quality workplace components. One ingredient in strengthening traditional programs is to ensure a higher level of staff involvement in developing, selecting, and monitoring workplace activities. Many schools have sought to expand or enhance internship programs, even though few new resources were available. Drawing on the surveys of the classes of 1996 and 1998, one can assess whether there have been recent improvements in paid and unpaid positions that students secure through school.

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[4](...continued)
characteristics (including parents' education levels, gender, race, welfare receipt, disability status, and 9th-grade GPA ranking).

The student surveys confirm that school staff have increased their monitoring of paid internships and suggest that these efforts may be contributing to other positive changes in these internships. Students in the class of 1998 who had obtained paid positions through school were more likely than those in the class of 1996 to report having talked about their work experience with school staff. Efforts to monitor paid internships may be leading to other positive change as well. Students in the class of 1998 were somewhat more likely to discuss career issues with employers and obtain an evaluation from employer and school staff; however, these others changes were not statistically significant. Notwithstanding schools' efforts to monitor internships more carefully, the substantive links between students' work-based learning and their classroom assignments have not grown, and may even be declining somewhat.[5]

Schools' unpaid internships appear to be offering fewer opportunities to learn about and prepare for careers, a trend that may be due in part to the increased emphasis that schools place on community service. Students in the class of 1998 who held unpaid internships were less likely than those in the class of 1996 to say they had discussed career issues with employer staff, received an evaluation of their worksite performance from employer or school staff, or spent more than half their time at the workplace in training. One explanation for these changes is that some states and schools are encouraging students to perform volunteer activities that focus more on providing a community service than on learning about or preparing for careers.[6] These state and local community service initiatives are often not connected with schools' STW programs. The higher priority STWOA placed on paid (as opposed to unpaid) work-based learning may have discouraged some STW partnerships from trying to enhance schools' community service programs.

ENHANCING WORK-BASED LEARNING OPPORTUNITIES IN THE FUTURE

Although schools' work-based learning programs retain many attractive features, advocates of these programs should try to enhance their appeal. School staff should seek to upgrade both brief and intensive work-based activities. While brief worksite observation activities are growing, they often provide only limited learning opportunities beyond some exposure to a specific workplace. Compared with the regular jobs most students obtain, schools' paid and unpaid internships appear to offer more structured learning opportunities. However, efforts to expand internship programs should address the concern that internships may sometimes distract students from their studies and thereby limit future educational or career options. STW advocates could respond to these challenges and concerns in at least four ways.

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[5]The fraction of students who drew on their work experience in a classroom assignment declined from 52 percent in the class of 1996 to 44 percent in the class of 1998; however, this change is not statistically significant.

[6]The student survey shows a decrease from 1996 to 1998 in the number of students reporting unpaid internships, from 53 to 42 percent, and a corresponding increase in reports of "volunteer work." National surveys of local partnership coordinators indicate substantial growth in the availability of community service between 1996 and 1997.

1. ***Connect work-based activities more closely with the school curriculum.*** Although many students report some connections between their work-based activities and their school assignments, case study evidence suggests that these connections are sometimes superficial. Since employers usually have difficulty reconfiguring students' work activities around the school's curriculum, school staff may need to help students make greater use of their workplace experiences. For example, teachers can develop projects that involve some data collection in a workplace or that generate a report for both the teacher and the employer to review.

2. ***Develop internships that involve a moderate amount of time at the workplace.*** STW advocates may have difficulty securing teachers' support for internships as long as a substantial fraction of participating students work more than 20 hours per week. However, very brief internships appear to provide only limited opportunities for students to apply technical or academic skills or to receive much feedback on their performance. It might be wisest to develop internships of intermediate intensity (for example, paid internships lasting 12 to 20 hours per week and unpaid internships lasting at least 3 hours per week for several weeks).

3. ***Develop workplace activities in settings that appeal to male students.*** Male students are generally underrepresented in schools' internship programs, and, when they do participate, they are somewhat more likely to work in retail or restaurant jobs. Reflecting their lack of exposure to alternative careers, male students also are less likely than their female peers to define career goals during high school. Schools could try to develop internships that can attract more male students and that can help them form and refine their career goals.

4. ***Increase public appreciation of the broad potential benefits of work-based learning.*** Work-based activities occasionally can directly reinforce academic competencies, but this characteristic may never be their most important asset. Even when internships are connected to the school curriculum, they may not provide many opportunities to practice or reinforce academic skills. However, carefully designed internships do often provide opportunities to perform challenging tasks, receive feedback from employer and school staff, and learn about the world of work. These kinds of experiences have the potential to cultivate students' ability to define and solve problems, work productively with others, and develop a sense of self-confidence and direction. Regardless of whether or not these developmental benefits lead to higher levels of academic achievement, they can contribute to students' success in the labor market and in life. The burden will fall on advocates of work-based learning to demonstrate that internships cultivate these competencies and to persuade parents and school staff that they will expand, rather than limit, students' career options.

A. INTRODUCTION

During the 1990s, the federal government sought to expand and enhance work-based learning activities for high school students. The School-to-Work Opportunities Act (STWOA) of 1994 authorized "seed money" grants to partnerships of local schools and employers to sponsor a variety of career-focused learning activities for students, including career awareness and development activities, classes related to career interests, and work-based learning. Although federal officials decentralized program control by giving School to Work (STW) partnerships discretion in deciding which activities to emphasize, most policymakers and STW advocates viewed the expansion of work-based learning as a central objective of STWOA. State and federal officials ambitiously interpreted STWOA as calling for systemwide reforms that could benefit all students. STW advocates argued that all high school students could benefit from some classroom or worksite activities designed to clarify career goals and let them apply academic and technical skills. By engaging a large and diverse mix of students in these activities, some educators also hoped to overcome the stigma frequently associated with high schools' vocational classes and co-op work programs--activities that focused traditionally on careers that do not require a four-year college degree.

STWOA emphasized a specific and intensive form of work-based learning. Although local STW partnerships were encouraged to develop a menu of work activities, the menu had to include a "planned program of job training and work experience" coordinated with the classroom curriculum. This model of work-based learning resembled the "youth apprenticeship" demonstrations of the early 1990s, which involved modest numbers of students, most of whom were enrolled in vocational programs. The demonstrations developed extended internships designed to reinforce technical, problem-solving, and, sometimes, academic skills (Pauly et al. 1995; and Silverberg 1996). The

policymakers who drafted STWOA hoped to extend these kinds of learning opportunities to greater numbers of students.

Policymakers also sought to broaden the menu of work-based activities available to students. In addition to extended internships, STWOA permitted partnerships to use federal funds to support the development of two other "permissible" work activities: (1) "job shadowing" visits to worksites to learn about the jobs of particular employees; and (2) "school-based enterprises"--that is, student-run businesses, such as a school store, restaurant, or bank. Because these activities, particularly job shadowing, usually are shorter or involve less extensive coordination with employers than do internships, they are often easier to develop for large numbers of students. Moreover, by expanding the menu of work activities, policymakers sought to accommodate the needs of diverse schools and students.

The decision of federal officials to give STW partnerships considerable latitude in designing work-based learning reflected the short-term nature of STW funding. State and local partnerships were free to develop paid and unpaid work activities that reflected local priorities and resource constraints. This flexibility was necessitated by both the politics of federalism and the need to cultivate the kind of local ownership of STW reforms that could sustain them after partnerships had exhausted the modest implementation grants.

These features of the national STW initiative--ambitious participation goals, decentralized management, and modest federal funding--prompt questions about whether the initiative led to any aggregate changes in students' involvement in work-based activities. Given federal reliance on state and local officials to interpret and implement general guidelines, one might ask whether the initiative led to significant changes in the extent or form of students' worksite experiences. The specific kinds of work activities schools chose to expand is important. Extended internships have the potential to

offer students a chance to develop several types of competencies, including their knowledge about careers as well as technical, academic, problem-solving, and employability skills. However, these intensive activities also require a large investment of time from students, employers, and school staff. Brief worksite observation activities, such as job shadowing, can give students a chance to learn about potential careers, but they rarely afford students any opportunities to develop or apply specific skills. School-based enterprises usually do not give students detailed information about alternative careers, but they can offer them a chance to develop management, problem-solving, and other general skills that employers value.

Drawing on student surveys, students' high school transcripts, and site visits conducted as part of a national evaluation, this report examines the extent of student participation in work-based activities and assesses whether this participation changed after implementation of the national STW initiative. The student survey, conducted for the National Evaluation of School-to-Work Implementation, was administered to random samples of two cohorts of 12th graders drawn from the classes of 1996 and 1998.[1] The survey was conducted in eight states that received their STW Implementation Grants relatively early; the students completing the survey were sampled from schools covered by STW partnerships in these states.[2] The sample therefore is not confined to students participating in activities supported by STW programs or funding. The high school

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[1]Mathematica Policy Research, Inc. is conducting this evaluation for the U.S. Department of Education. Additional information on these data sources, as well as additional substantive findings from the National Evaluation of School-to-Work Implementation, are contained in Hershey et al. (1997). Data for the class of 2000 were collected recently but were not available when this paper was drafted.

[2]All eight states--Florida, Kentucky, Maryland, Massachusetts, Michigan, Ohio, Oregon, and Wisconsin--received grants during the first and second years (1994 and 1995) of the national STW initiative. The students were randomly sampled through a two-stage clustered design: first the schools were sampled from partnerships, and then, students were selected from the schools' 12th-grade classes.

transcripts of students in the sample were also collected to supplement the survey data. By comparing the survey responses and transcripts of the two cohorts of 12th graders--the class of 1996 and the class of 1998--one can measure aggregate changes in students' involvement in specific work-based activities, the mix of students participating, and the characteristics of the students' work activities. In interpreting and elaborating the findings from the student survey, the report also draws on site visit discussions with school and employer staff.[3]

Because the aggregate measures of student participation capture many worksite activities, the analysis is not confined to activities sponsored by STW partnerships. Many schools had preexisting work-based activities, and students responding to the survey did not distinguish those activities from the ones that STW partnerships developed. Moreover, concurrent educational initiatives other than those sponsored by STW partnerships may affect the schools' mix of work-based activities. For example, since the mid-1990s, the service-learning movement has been expanding some unpaid volunteer work experiences for students. Nonetheless, the intercohort comparisons can shed light on whether STW initiatives, in conjunction with other economic and educational trends, led to aggregate changes in the extent or nature of students' work-based activities.

The rest of this report is organized around an analysis of four broad issues and related questions:

1. ***Scale and Growth of Specific Work-Based Activities.*** What fraction of students in schools covered by STW partnerships participate in brief or intensive work-based activities? Is student participation in work-based activities growing? What factors have impeded or facilitated growth of specific activities?

2. ***Mix of Students Participating in Work-Based Activities.*** Which groups of students have the highest rates of participation in work-based activities? Are schools and STW partnerships able to engage both college-bound and other students in these activities? How has the mix of participants changed?

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[3]As part of the STW evaluation, the researchers conducted two rounds of site visits to 31 local STW initiatives in the eight states. These site visits were conducted between 1996 and 1998.

3. ***The Quality of Intensive Work-Based Activities.*** How are the internships that students obtain through school different from the paid jobs and volunteer work they find independently? Have schools and STW partnerships succeeded in increasing the quality of internships over time? Do schools' internships offer more qualitative advantages to certain groups of students?

4. ***The Value of Work-Based Activities in Clarifying Career Goals.*** To what extent do students perceive that work-based activities have helped them clarify their career goals? Which activities do students report as most helpful in this respect? Which groups of students are most likely to experience these benefits?

B. SCALE AND GROWTH OF SPECIFIC WORK-BASED ACTIVITIES

The fact that new workplace activities are becoming available does not mean that these activities will engage large and growing numbers of students. Most partnerships have developed at least some job-shadowing activities, school-based businesses, and paid and unpaid internships (Hulsey and Van Noy 2000). However, growth in the number of students who report participating in particular types of worksite activities hinges on many factors. These include the cost of the activity relative to the resources that schools and partnerships have available; the degree to which school staff, parents, and students find the activity appealing; whether schools choose to make specific activities voluntary or mandatory; and the extent to which expansion in partnership-sponsored activities is offset by declines in preexisting workplace activities.

As federal officials had anticipated, brief worksite observation activities have a broad appeal and are fairly easy to implement on a large scale. Because these activities, including both group worksite visits and individual job-shadowing experiences, last only a few hours, they are less complicated for employers and schools to organize than are extended paid or unpaid internships. Parents and school staff often find worksite observation activities attractive because they offer some exposure to careers without substantially interfering with students' other school or after-school activities. Moreover, students may be able to visit several employer sites and learn about a broader

array of careers than if they commit to a longer internship at a single workplace. Sensing that job shadowing could benefit and attract large numbers of students, the National School-to-Work Office promoted this activity and established National Job Shadowing Day (which falls on Groundhog Day). Other non-STW initiatives, such as "Take Our Daughters to Work Day," sponsored by the Ms. Foundation for Women, also gained momentum around the same time. These promotional efforts helped encourage more students to participate in some type of worksite observation activity.

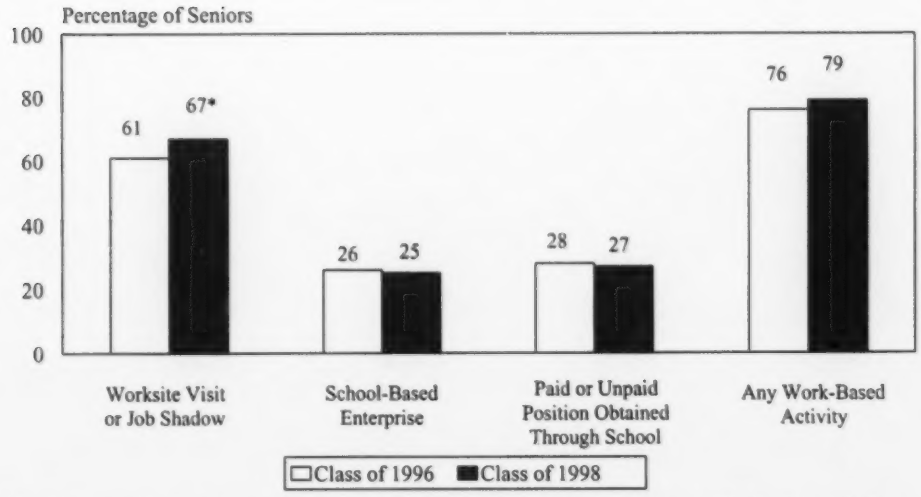
The popularity of job shadowing and worksite visits is reflected in the large and growing number of students involved in these activities (Figure 1). These types of worksite observation activities were popular even before schools began implementing their STW initiatives: among the class of 1996 seniors in the eight survey states, more than three out of five (61 percent) had participated in one of the two worksite observation activities during high school.[4] Two years later, 67 percent of the seniors in the class of 1998 reported that they had participated in a worksite observation activity--a modest increase over the 1996 rate. Most of the growth was due to the expansion of job-shadowing activities (rather than group worksite visits); during the two-year period, participation in job shadowing grew by about one-third, from 25 to 34 percent of students (data not shown).

In contrast, intensive work-based learning activities have engaged fewer students and did not grow between 1996 and 1998 (Figure 1). During their four years of high school, about 27 percent of the members of the class of 1998 obtained a paid or unpaid position that they found through school (which we refer to as an "internship"). Most of these internship experiences

[4]Worksite visits were the most commonly reported activity (60 percent), but job shadowing was reported by 34 percent of the sample (not shown in figure).

FIGURE 1

STUDENT PARTICIPATION IN WORK-BASED ACTIVITIES:
CLASSES OF 1996 AND 1998



SOURCE: STW 12th-grade student survey, spring 1996 and spring 1998, Mathematica Policy Research, Inc.

*The difference between the class of 1996 and the class of 1998 is significant at the .05 level, two-tailed test.

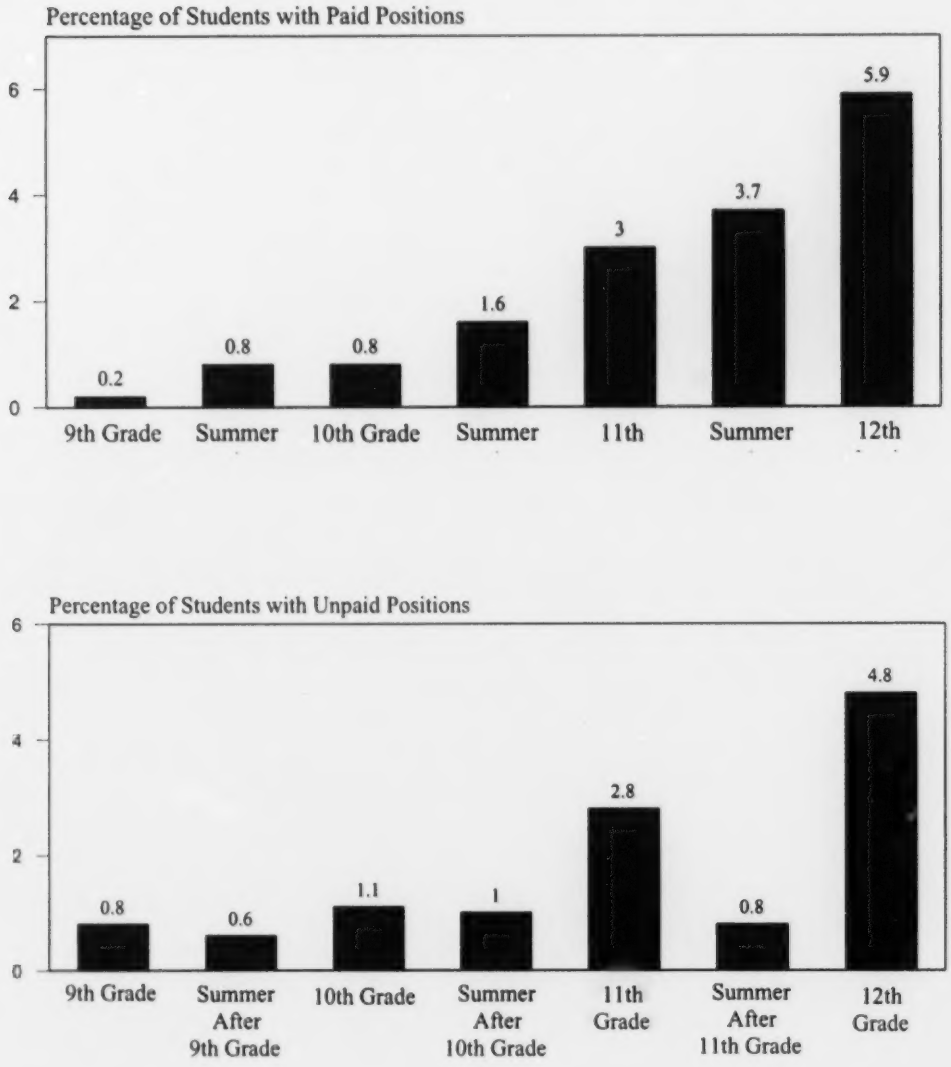
continued to be concentrated toward the end of high school, the period during which many students clarify their career goals and prepare to enter the workforce or higher education (Figure 2). Participation in internships does not appear to have expanded between the class of 1996 and class of 1998, despite the emphasis STWOA placed on these activities.

Visits to STW partnerships and other recent research suggest that three factors constrain the growth of internships:

1. ***Workplace learning requires significant support from school staff.*** Schools incur substantial costs to develop internships. In theory, intensive work-based learning activities could substitute employer resources (space, equipment, and staff) for school resources. In practice, however, high-quality internship programs usually require a new time commitment from school staff. Internship coordinators must recruit and screen employers, match them with appropriate students, help employers define suitable tasks

FIGURE 2

PERCENTAGE OF STUDENTS OBTAINING INTENSIVE WORKPLACE POSITIONS THROUGH SCHOOL: CLASS OF 1998



SOURCE: STW 12th-grade student survey, spring 1998, Mathematica Policy Research, Inc.

and training activities for students, monitor students' progress, and help resolve problems. The logistical burden is substantial in part because employers provide positions for an average of only two or three students (Hulsey and Van Noy 2000). Thus, for example, to develop and monitor internships for a group of 30 students, internship coordinators usually must maintain contact with a dozen employers. Moreover, the expansion of internships rarely reduces the number of classes taught in a school. As a result, the staff resources available for developing and coordinating internships usually are in short supply.

1. ***Employers can also incur substantial costs but secure uncertain benefits.*** Training interns can be expensive. Estimates of the costs to employers of training and supervising students in high-quality, work-based internship programs run as high as $10,000, not including student wages (Silverberg 1996). Some participating employers reap few long-term benefits, because interns usually leave the employer after high school graduation.[5] Most employers note that their rationale for working with students is to make a contribution to the community or to gain a public relations benefit.[6] Most nonparticipating employers suggest that they are not willing to bear the costs of these internships, since they perceive few financial benefits and are not interested in making this type of contribution to their community.

2. ***Tension between workplace activities and academic success is perceived to exist.*** Some school staff and researchers are concerned that work-based learning can impinge on the time students would otherwise spend on their traditional studies. This issue relates to a broader concern that some high school students spend too much time in paid jobs. The student survey indicates that about three-fourths of those in the class of 1998 held a paid position during the school year. More than 40 percent of these students worked longer than 20 hours per week in their most recent job (Figure 3). Although the paid positions that students obtain through school involve slightly fewer hours of work per week than the jobs they find on their own, the difference is small and not statistically significant. The fact that a substantial fraction of schools' internships are time-consuming has caused some educators to be concerned about work-based learning.

A final factor that may have been related to the lack of growth in the scale of schools' internship programs was an overall decrease in students' labor force participation in the eight states. Students in the class of 1998 survey cohort were somewhat less likely than the seniors in the 1996 cohort to

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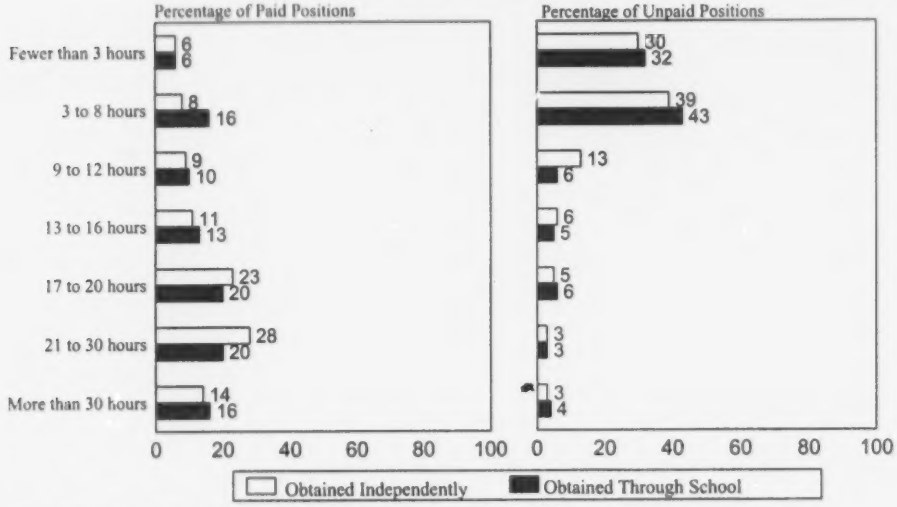
[5]Follow-up surveys with students from the class of 1996 suggest that fewer than one-third of those holding a paid internship during high school perform any work for the same employer during the 18 months after high school graduation.

[6]Nearly 60 percent of respondents in one recent survey of employers that provide extended work-based learning experiences for students reported that their primary motivation was to contribute to the community or to improve the public educational system (Bailey et al. 2000).

FIGURE 3

DISTRIBUTION OF HOURS PER WEEK IN WORK-BASED EXPERIENCES THAT STUDENTS OBTAIN DURING THE SCHOOL YEAR: CLASS OF 1998



SOURCE: STW 12th-grade student survey, spring 1998, Mathematica Policy Research, Inc.

NOTE: The distribution of hours per week for paid and unpaid positions obtained through school was not significantly different from that for positions obtained independently at the 0.05 level, two-tailed test.

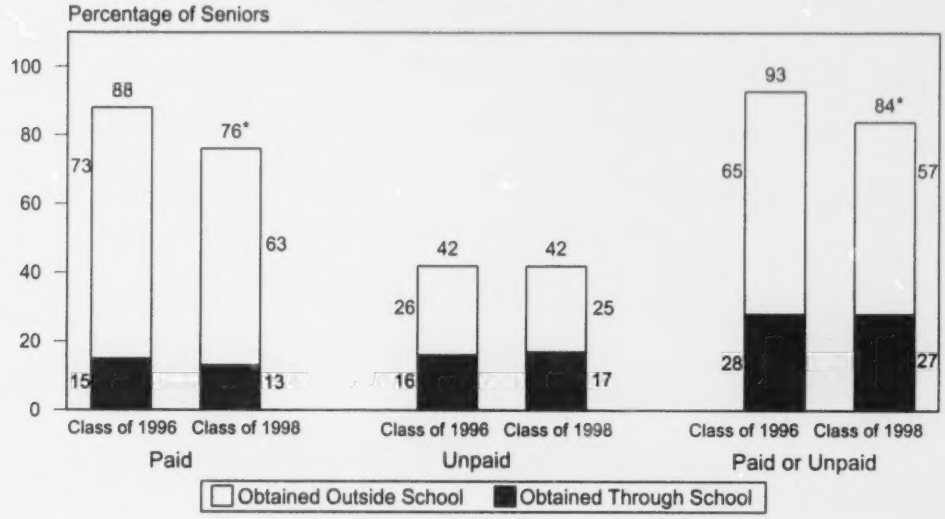
report having had paid employment in general, and paid jobs they had found on their own in particular (Figure 4). This result departs from national findings in the Current Population Survey, which suggests that the employment rate of high school students nationally remained fairly stable during this period. It is possible that labor market conditions or other factors affecting students in the in-depth study schools were somewhat different from the average conditions nationally.

C. MIX OF STUDENTS PARTICIPATING IN WORK-BASED ACTIVITIES

While students usually must volunteer to participate in work-based learning activities, schools can influence the mix of students who do so. School staff often promote work-based activities more vigorously to those students they believe to be most receptive or most likely to benefit. Furthermore,

FIGURE 4

PERCENTAGE OF STUDENTS OBTAINING WORKPLACE POSITIONS: CLASSES OF 1996 AND 1998



SOURCE: STW 12th-grade student survey, spring 1996 and spring 1998, Mathematica Policy Research, Inc.

*The difference between the class of 1996 and the class of 1998 is significant at the .05 level, two-tailed test.

differences in subgroup participation rates may arise simply because a particular group of students is concentrated in schools in which particular activities are emphasized to a greater or lesser degree than in the average school. Hence, the mix of students involved in specific kinds of activities reflects both students' access to opportunities and whether individual students find these opportunities appealing.

The STW student survey data reveal which groups of students were most likely to participate in specific work-based learning activities. We examined differences in participation based on students' gender, race, grade point average, and postsecondary plans; the urbanicity of their school;

and whether the students were vocational concentrators.[7,8] Together, these analyses revealed the following significant differences in the participation rates of various groups of students in the class of 1998, shown in Table 1:

- ***Students who are not college bound are more likely to obtain paid positions through school.*** Many of the largest and most established work experience programs--including school co-op programs--traditionally attract students who do not plan to attend college. These programs often are designed to serve students interested in obtaining jobs that might continue after graduation. This pattern is reflected in the responses of the class of 1998: students who had no concrete plans to attend college during the year after high school were more likely than college-bound students to report participating in a paid job or internship they obtained through their school. Among those who had some paid position during the school year, 23 percent of students with no plans to attend college obtained their jobs through school, compared with 17 percent of those bound for two-year colleges and 15 percent of those with plans to attend four-year colleges (data not shown in table).

- ***Vocational concentrators are more likely to participate in worksite visits and paid internships.*** Students taking four or more vocational classes in a particular field were more likely than other students to attend short-term worksite observation activities and longer-term paid job opportunities developed by schools. Some of the short-term activities are probably designed to help students interested in vocational programs define or clarify their career goals in order to confirm which vocational classes are appropriate for them. The high rates of participation in more intensive paid internships may also reflect the persistence of traditional co-op programs.[9]

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[7]Vocational concentrators are defined as students who take at least three vocational courses in a specific career cluster; this variable was defined using students' high school transcripts.

[8]We analyzed participation in three ways. First, we examined whether the participation rates of groups of students differed without controlling for students' schools or background characteristics (using simple chi-squared tests). These results are presented in Table 1 and are the focus of the discussion in the text. Second, we used regression analysis to assess whether differences in participation rates could be explained by the schools that students attended. For example, we compared the participation rate of African American students with that of white students in their own schools. Third, we conducted additional regressions to test differences in participation after controlling for both the students' schools and other background characteristics, including previous academic performance, race, gender, and parents' education levels. The findings using each of these three methods were very similar.

[9]School effects and other observable differences explain only a small part of the difference in vocational and nonvocational students' participation in paid positions developed by schools.

TABLE 1

PERCENTAGE OF STUDENTS PARTICIPATING IN WORK-BASED ACTIVITIES, BY SUBGROUP

Variable/Subgroup	Paid Positions Obtained Through School		Unpaid Positions Obtained Through School		Job Shadowing or Worksite Tour		School-Based Enterprise	
	Class of 1996	Class of 1998	Class of 1996	Class of 1998	Class of 1996	Class of 1998	Class of 1996	Class of 1998
All Students	15.0	13.0	16.4	17.0	61.5	67.2**	25.5	25.1
Gender								
Male	14.1	11.4*	12.5*	12.9*	61.3	66.0	24.0	22.6
Female	15.8	14.6	19.9	20.7	61.7	68.2	26.9	27.4
Race/Ethnicity								
African American	21.4*	19.6*	19.4	13.8	61.1	74.4*	30.2	28.5
Hispanic	14.4	16.8	16.3	19.9	55.4	56.8	25.4	23.6
White/other	13.8	11.3	16.0	17.3	62.3	66.7	24.9	24.5
Urbanicity								
Urban	19.7	14.7	17.8	14.9	53.0*	60.7*	24.4*	22.8
Suburban	13.3	12.3	14.8	16.5	62.1	65.2	23.4	21.9
Rural	12.3	12.7	18.3	19.8	72.5	77.6	32.5	33.5
12th Grade Grade Point Average Ranking								
In top half of class	15.5	12.6	19.3	20.5*	63.0	66.6*	25.6	24.2
In bottom half of class	14.3	13.5	14.7	14.1	62.8	71.5	27.8	27.4
Students' College Plans								
Four-Year College	12.6*	10.3*	18.3	19.5*	61.2*	68.8	25.0	25.6
Two-Year College	16.8	12.4	14.8	14.9	56.1	64.0	26.9	24.8
No College	16.6	18.2	14.5	14.7	66.1	67.7	25.5	24.7
Vocational Concentrator								
Yes	21.8*	18.2*	16.9	15.4	70.9*	78.7*	31.6*	29.1
No	12.7	11.4	17.0	17.9	60.4	65.9	25.2	24.8
Sample Size	**2,203**	**2,300**	**2,203**	**2,300**	**2,203**	**2,300**	**2,203**	**2,300**

SOURCE: STW 12th grade survey, spring 1996 and spring 1998, Mathematica Policy Research, Inc.

*Significant differences in the percentage participating across subgroups, at the .05 level, two-tailed test.

**Significant differences in the rate of participation *growth* from the class of 1996 to the class of 1998, at the .05 level, two-tailed test.

- ***High-performing students are more likely to participate in unpaid internships.*** Although high-performing and college-bound students were somewhat less likely than other students to attend worksite tours or obtain a paid job through school, they were more likely to have unpaid work and training experiences. This pattern may reflect differences in the backgrounds of high-performing and low-performing students. High-performing students, if they have higher family incomes, may be able to forgo wages in exchange for an educational work experience with potential long-term payoffs. The parents of these students may also have friends or colleagues who are able to help in finding interesting internship opportunities. In addition, more motivated students may both perform well in school and seek opportunities to learn about careers and impress college admissions staff. School staff, perceiving that these students might be more interested in unpaid internships, may also make conscious efforts to recruit high-performing students for these positions.

- ***Female students are more likely than male students to engage in most work-based activities.*** Although STW initiatives generally seek to involve male and female students in workplace activities, the student survey suggests that a larger fraction of female students participate. The largest and statistically significant gender gaps pertain to unpaid internships, but female students also have higher rates of participation than male students in paid internships, job shadowing, and school-based enterprises. These gaps appear to be related to other differences between male and female students. For example, a larger fraction of female students (61 percent) than male students (51 percent) reported that they had specified a career goal to school staff during high school. In general, students articulating a career goal are somewhat more likely to participate in work-based activities. Female students' ability and willingness to specify a career goal may make it easier for staff to place them in a relevant and attractive work-based activity. Alternatively (or in addition) female students work-based experiences may help them formulate career goals.[10]

- ***African American students are more likely than other students to obtain paid internships.*** Despite low overall employment rates, African American students are more likely than other students to obtain a paid internship arranged by school staff. These racial differences appear to be related to the fact that a somewhat smaller percentage of African American students (66 percent) had concrete plans to attend either a two- or four-year college than is the case for white students (75 percent). However, even among students planning to attend college, a larger fraction of African Americans

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[10]Among those articulating any career goal to school staff, about 34 percent of female students expressed an interest in health or medicine, compared with only 10 percent of male students. Students of both genders who expressed an interest in health had high rates of participation in internships (particularly unpaid internships) and in job-shadowing activities. In addition, female students were more likely than male students to express interests in career areas, such as health, for which schools have well-developed internship programs.

(16.3 percent) than whites (9.5 percent) were involved in paid internships.[11] African American students also have lower overall employment rates than white students, which suggests that internship programs could be offering employment opportunities to some African American students who might otherwise have difficulty finding jobs.

- ***Rural students are most likely to engage in activities that require minimal travel.*** Despite the transportation hurdles that rural students interested in working must confront, these students have employment rates comparable to those of other students. However, visits to rural schools suggest that the range of positions available in rural areas is sometimes tightly constrained by the limited range of industries located there. One way that rural schools appear to be broadening students' work-based learning options is by providing greater access to both worksite observation activities and school-based enterprises; these two types of activities attracted larger percentages of rural than suburban or urban students.[12] School staff often transport students to worksite observation activities, a good way for rural students to visit distant employers that offer a diverse range of jobs. School-based enterprises also can allow students to develop work-related skills without having to travel to a worksite.

The mix of students participating in work-based learning activities changed very little during the early years of STW implementation (Table 1). There appear to be no substantial changes in which students tend to participate in more intensive activities, including paid and unpaid internships and school businesses. However, shorter-term activities seem to be growing most quickly among female and high-performing students (not shown in table).[13] The growing popularity of the "Take Our Daughters to Work Day" initiative may partially explain the increasing number of female

[11]Indeed, even after controlling for school effects and a variety of background characteristics (including parents' education levels, welfare receipt, grades, and urbanicity), African American students are more likely to obtain a position through school. (These statistical analyses did not control for family income or social networks.)

[12]Although rural students were not significantly more likely than other students to participate in school-based enterprises, the magnitude of the difference in involvement was substantial.

[13]Among female students, participation in job shadowing grew by 11.8 percentage points from 1996 to 1998 (from 26.3 percent to 38.1 percent), compared with 5.7 percentage points among males (from 23.8 percent to 29.4 percent). Similarly, involvement of students ranking in the top half of their 9th-grade class grew by 12.6 percentage points during that same time period (from 24.2 percent to 36.8 percent), compared with 5.7 percentage points among lower-ranking students (27.9 percent to 33.6). While females are more likely than males to be high performers, regression analysis shows that the growth in job shadowing among females persists even after controlling for students' 9th-grade grade point average ranking, and vice versa.

students who participate in job-shadowing activities. It is also possible that the strong promotion of the National Job Shadowing Day has been most successful in reaching motivated or high-achieving students. Short-term activities, such as job shadowing, may be particularly appealing to high-performing students interested in learning about career options without taking much time away from their academic studies or extracurricular activities.

D. QUALITY OF INTENSIVE WORK-BASED ACTIVITIES

The sponsors of STWOA sought to create paid and unpaid workplace experiences that would provide greater learning opportunities than generally are found in the jobs students obtain on their own. Most students try to work at some point during high school and succeed in obtaining at least one paid job. Although students can learn something from almost any work experience (if only about employers' general expectations), the jobs teenagers most commonly obtain on their own tend to be of brief duration, offer few structured learning opportunities, and have little relation to their career interests or school programs. Schools may seek to enhance workplace activities by helping students obtain positions that correspond more closely to their interests, structuring activities to provide more training or more opportunities to learn about careers, providing constructive feedback to students on their worksite performance, and trying to make connections between students' school- and work-based learning activities so that the two sets of activities complement and reinforce each other.

To gauge the progress made in improving these features of students' work experiences, the analysis of the STW student survey focuses on three issues: (1) differences in the quality of the positions that students obtain through school and on their own, (2) how these differences vary across subgroups of students, and (3) changes over time in the quality of the worksite positions found through school.

1. Advantages of Positions Students Obtain Through School

Among the most important functions of staff involved in managing schools' work-based learning programs are developing interesting internships and matching students with appropriate slots. Historically, many school work experience programs, such as co-op programs, sought to develop work experiences related to students' career interests and to at least one of the students' high school classes.[14] However, research suggests that the connections between the positions obtained through these programs and students' school curricula sometimes are tenuous.[15] Some STW partnerships and states have sought to increase the substantive connections between students' assignments in the classroom curriculum and at work. Some of these efforts started early enough that they might have affected the high school experience of the class of 1998.[16]

The paid and unpaid internships that schools offer appear to have some important qualitative advantages over the jobs and internships students find on their own. The advantages of schools' internships are apparent based on simple comparisons with the positions students report finding on their own. Moreover, regression analysis suggests that these advantages are not attributable to the observable differences in the types of students who tend to secure positions through school and those

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[14]Cooperative (co-op) work experience, one of the most common types of work-based learning programs, requires student positions to be related to at least one high school class (typically a vocational class) but often allows students to obtain their own positions.

[15]Some research suggests that the connection between students' co-op jobs and their school curricula tends to be weaker in "diversified" co-op programs, in which the school staff supervising students' work experiences are responsible for students in many different career areas (Stern et al. 1990).

[16]For example, by 1996, Wisconsin had created a new "Skill Certified Co-op" program that requires participants to have a paid work experience of at least 480 hours, complete at least 90 percent of the state-approved industry competencies, and take at least two semesters of related school classes. By 1996, both Michigan and Ohio had created apprenticeship programs for high school students.

who find their own jobs or internships.[17] Based on the work experiences reported by students in the class of 1998, five advantages of the positions students obtain through school are evident:

1. ***Access to More Diverse Workplaces.*** Schools develop positions in a wide range of industries, increasing the chances that students can work in settings relevant to their career interests. The paid positions that schools develop are particularly diverse. These positions are less likely than jobs students find on their own to be in the retail or restaurant sectors and are more likely to be in public, legal, and social services; health care; and education (industries of interest to many students) (Figure 5). Unpaid positions obtained through school are in less diverse settings; more than 40 percent are in schools (data not shown in figure). However, students responding to the STW survey indicated that their volunteer jobs within schools were quite varied. These jobs included tutoring students, completing administrative tasks, and helping to manage sports teams or events.

2. ***Positions More Likely to Match Students' Career Goals.*** The positions students find through school are more likely to match their career interests than are those they find on their own. For students reporting a clear career goal focused on a particular industry, the STW 12th-grade survey provides a rough measure of the match between the industry of the students' most recent position and their career goal at the time of the survey.[18] Although only about 23 percent of all the positions students obtained through school matched their current goals, this was considerably better than the 4 percent match rate for students who found their own jobs. Match rates were the highest for those obtaining unpaid positions through school (38 percent).[19]

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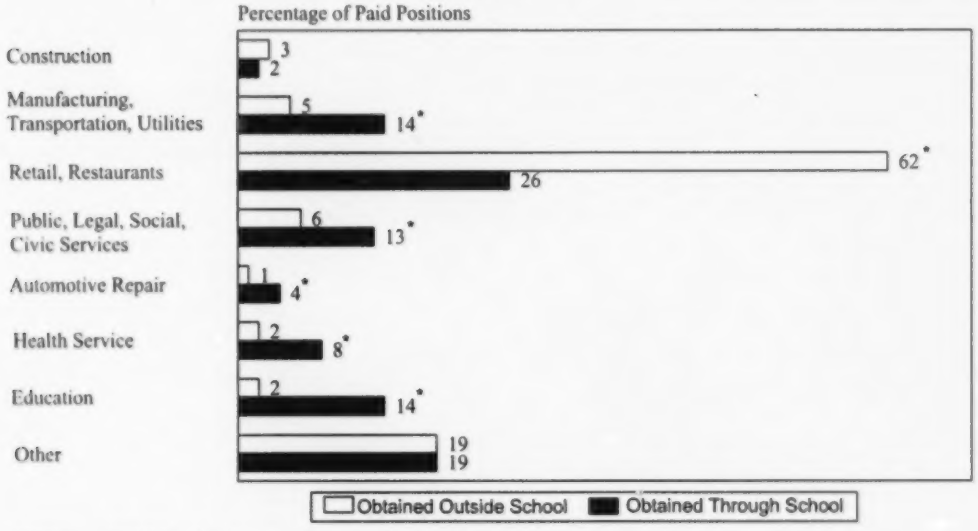
[17]The magnitude and significance of the qualitative differences between the positions students obtain through school and those they find on their own remain the same even after one controls for students background characteristics and 9th-grade point average.

[18]This analysis could be conducted only for the 44 percent of students who identified clear career goals in an industry that could be readily matched with their jobs. Vague career goals (such as "business") and goals that did not focus on a specific industry (such as "computers") could not be matched. It is important to recognize, however, that students' career goals at the time of the interview may have differed from their goals at the time they started working in the position.

[19]Some of these apparent matches may have been less than ideal. For example, although many of the students interested in careers of education obtained unpaid positions in schools, these positions often did not involve any teaching or tutoring.

FIGURE 5

INDUSTRIES IN WHICH STUDENTS HAVE PAID POSITIONS:
CLASS OF 1998



SOURCE: STW 12th-grade student survey, spring 1998, Mathematica Policy Research, Inc.

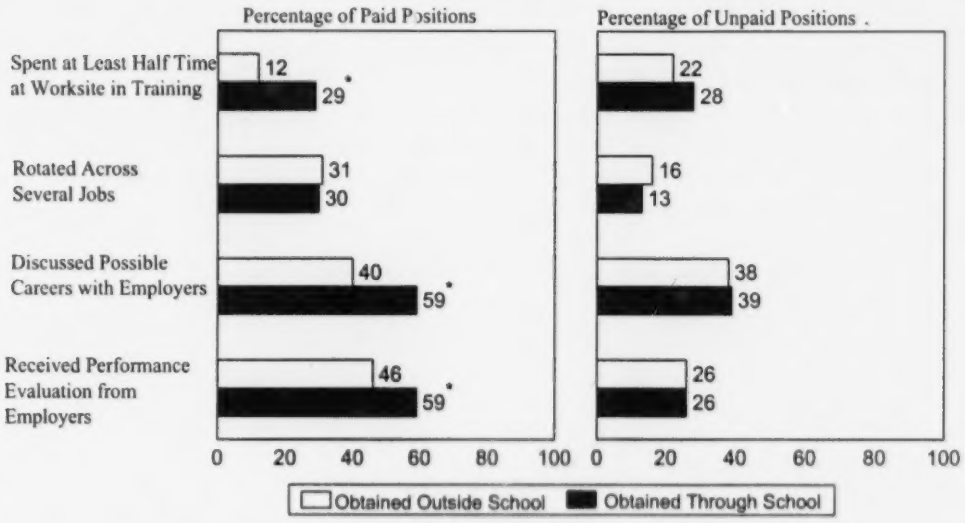
*The difference between positions obtained outside school and through school is significant at the .05 level, two-tailed test.

3. ***More Time at Workplace Spent in Training and Discussing Careers.*** Case study evidence suggests that students rarely are assigned challenging tasks unless they receive substantial amounts of training. Students were asked to estimate the fraction of the time at their workplaces they spent "doing regular work" and the fraction they spent "being trained or practicing skills." In paid jobs, they were more likely to spend at least half their time in training if they had found their job through school (Figure 6). They also were more likely to have chances at the worksite to discuss career options with adults. About 59 percent of students who had secured paid positions through school reported discussing possible careers with adults at their workplaces, compared with 40 percent of those who had found their positions independently.

4. ***More Feedback on Performance.*** Students in positions arranged through school were more likely than those finding their own positions to receive performance evaluations from employer staff (Figure 6). These students also were more likely to discuss their work experiences with school staff, and to have their worksite performance count toward a grade at school (Figure 7).

FIGURE 6

LEARNING OPPORTUNITIES IN WORKPLACE EXPERIENCES:
CLASS OF 1998

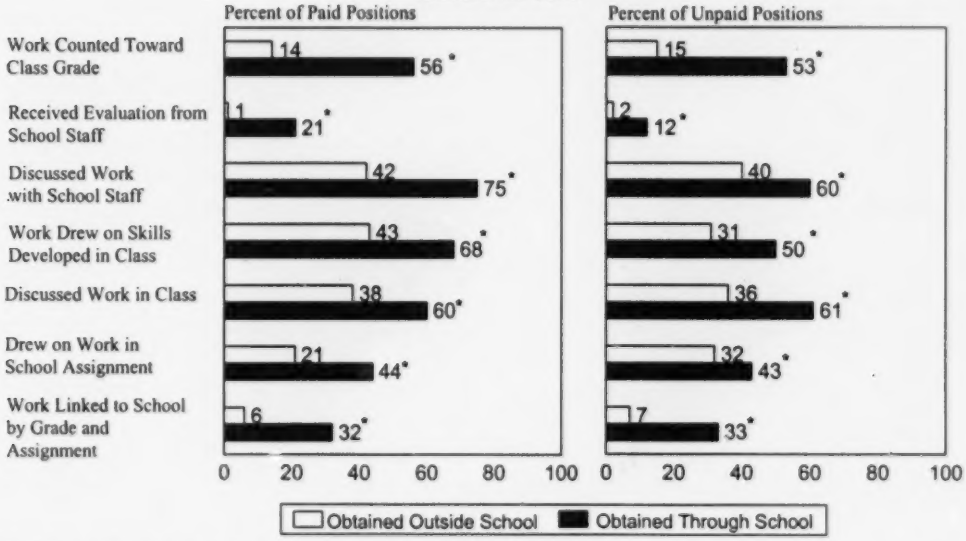


SOURCE: STW 12th-grade student survey, spring 1998, Mathematica Policy Research, Inc.

*The difference between the positions obtained outside school and through school is significant at the .05 level, two-tailed test.

FIGURE 7

WORK-SCHOOL LINKS EXPERIENCED BY STUDENTS
CLASS OF 1998



SOURCE: STW 12th-grade student survey, spring 1998, Mathematica Policy Research, Inc.

* Difference between the positions obtained outside school and through school is significant at .05 level, two-tailed test.

5. ***Links Between School and Workplace More Common.*** Students who had obtained positions through school were more likely to be aware of substantive connections between their studies and work experience (Figure 7). For example, compared with those who found their position, students in schools' internships more often reported that workplace tasks made use of academic or technical skills they had learned in school. They also were more likely to draw on their work experiences while completing school assignments or participating in discussions. Although most of the assignments that drew on students' work experiences were made in vocational classes, a substantial minority of students received these assignments in academic classes.[20] However, visits to high schools suggest that links with the academic curriculum are not always deep. For example, teachers sometimes ask students to write essays or make presentations about their work experiences. Although these assignments may enhance communication skills and give students an opportunity to reflect on career goals, they may not help to improve the students' analytic skills.

While these differences in the quality of positions that students find through schools and on their own cannot be explained by the duration of students' work experiences, longer internships do tend to offer the most learning opportunities. Students spend about the same hours per week in internships as they do in regular jobs (see Figure 3). In general, however, more intensive workplace experiences do offer more learning opportunities. Among students who obtained a paid internship through school, those who worked more than 12 hours per week were more likely than those working fewer hours to be evaluated by their employers, discuss their work experience during class, and have work linked to school through grades. Among those with unpaid positions, students working three or more hours per week were more likely to receive performance evaluations from their employers, discuss careers with their employers, receive at least half-time training, use what they learned on the

[20]About 21 percent of students in the class of 1998 who obtained paid positions through school reported using what they had learned at work during a vocational class assignment. Approximately 12 percent reported they had drawn on their work experiences in an academic class. Four, eight, and three percent of these students used what they had learned for a mathematics, English, or science assignment, respectively.

job in vocational or academic classes (specifically, mathematics or English), and have their job linked to a class assignment and grade.[21]

Several factors may contribute to the fact that longer work-based learning experiences tend to offer more learning opportunities than shorter ones. Even if learning occurs randomly, one would expect that those with longer workplace experiences would have more chances to learn about careers, practice new skills, or secure some feedback from a supervisor. However, visits to schools and students' workplaces suggest that this pattern is not random; rather, it also reflects the influences of both school staff and employers. When developing activities that require a larger time commitment from students, school staff are more likely to design activities that provide multiple learning opportunities and to monitor the students' progress. In addition, employers understandably respond differently to students who commit to spending a substantial amount of time at a workplace. In these cases, employer staff are more likely to provide an orientation and some training, if only in an attempt to transform the students into more productive employees.

In developing positions for students, school staff should seek to balance the interest in providing sufficient time for students to learn at the workplace with concerns about the time remaining for their academic studies and other activities. The trade-off is less difficult in the case of unpaid internships, which are usually short and whose quality may be enhanced by modest increases in the number of hours students plan to spend at a worksite (to at least three or more hours per week). The trade-offs are somewhat more complex in the case of paid internships. The STW survey data suggest that students spending at least 12 hours per week at a worksite have higher-quality experiences than those spending less time. However, regression analysis also suggests that working longer hours (specifically, 20 hours or more) in paid positions is associated with slightly lower grades, after

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[21]These simple associations do not control for possible differences in the motivation of students who work longer or shorter hours.

controlling for students' prior academic performance and background characteristics.[22] While this association is weak and may be spurious, it suggests that program staff should seek to develop internships of intermediate durations (between 12 and 20 hours per week).[23]

2. Subgroup Differences in the Advantages of Positions Obtained Through School

STWOA sought to make work-based activities widely available. However, not all students reap the same advantages from these activities. For at least two reasons, the "value added" of schools' work-based activities, particularly the more intensive internships and work-experience activities, might vary for different students. First, school staff often develop different types of work activities for different students, in part in an effort to meet students' individual needs and interests. In addition, school staff may have to accommodate employers' requests to prescreen students, to ensure that student interns have specific skills, motivation levels, or interests that match the positions available. Second, the relative advantages of the positions schools develop depend on students' work and training alternatives (that is, the kinds of work activities students can secure without assistance from school staff). The features of the jobs that students can find on their own depend

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[22]The cumulative grade point averages of students who worked more than 20 hours per week at their most recent job or internship were 0.08 points lower (on a 4.0 scale) than those who did not work at all. This negative association exists regardless of whether students obtained their position independently or through school staff. By contrast, students working less than 20 hours per week appear to receive grades similar to those who did not work during high school. These results are based on regression analyses that control for students' 9th-grade grade point average and background characteristics, including race, gender, parent's education level, urbanicity, welfare receipt, and disability status. Other studies on this issue have similar findings--namely that only the most time-consuming jobs appear to interfere with students' academic achievement (National Academy of Sciences 1998).

[23]The students who choose to work long hours may already be less engaged in their studies for reasons that are not directly related to their jobs. Moreover, regardless of whether these associations reflect the negative effects of time-consuming jobs, they may be contributing to teachers' perceptions that working long hours can be detrimental to students' academic success.

on many factors, including students' motivation levels, their networks of families and friends, the local economy, and the types of paid or unpaid jobs available through local community programs.

In considering how to ensure that internships provide useful learning opportunities for all students, it is necessary to determine which groups of students improve the quality of their work experiences by obtaining positions through school, rather than by finding them independently. We examined this issue from two perspectives. First, we examined differences across subgroups in the quality of the positions the subgroups obtain through school. Second, for each subgroup, we compared the quality of the positions students obtained through school with the quality of those they secured on their own. We used regression analysis to control for differences in the characteristics of students who obtained positions through school and who obtained positions on their own.[24] The most noteworthy subgroup differences, which are summarized in Tables 2 and 3, are the following:

- ***Female students are most likely to improve access to diverse industries through school internships.*** Most male and female students who find jobs on their own work in retail. Female students, however, appear to be more likely than males to use school internship programs as an avenue to work in diverse industries. Although female students in the class of 1998 were more likely than males to have regular jobs in the retail sector, female interns were more likely than male interns to work outside retail (Table 2).[25]

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[24]These models include variables that control for the schools that students attend and student background characteristics, including gender, race, 9th-grade grade point average, parents' educational attainment, welfare receipt, and disability status. These regression models may not control for all the characteristics that differ between students who obtain positions through school and those who find jobs on their own. Hence, our estimates of the quality of benefits accruing to students who obtain positions through school, rather than independently, may be attributable partly to differences in the characteristics of the two groups.

[25]Female students were particularly likely to obtain positions in the health industry. This finding may partly reflect the fact that schools' health occupation programs attract larger numbers of female students than male students. Nevertheless, when female students obtained positions through school, they were more likely than male students to increase their chances of working in a variety of other industries, including manufacturing.

TABLE 2

DIFFERENCES IN THE QUALITY OF PAID POSITIONS FOUND INDEPENDENTLY AND THROUGH SCHOOL, BY SUBGROUP: CLASS OF 1998

	Had at Least Half Time Training			Worked in Retail or Restaurant			Work Linked to School by Grade		
	Through School	Not Through School	Difference	Through School	Not Through School	Difference	Through School	Not Through School	Difference
All Students	27.1	11.7	15.4	25.3	62.3	-37.0	54.9	14.1	40.8
Gender									
Male	28.4	8.4*	20.0	25.8	57.1*	-31.3**	49.3	15.0	34.3
Female	24.2	13.4	10.8	19.5	65.8	-46.2	52.8	12.1	40.7
College Preparatory Curricula									
Yes	23.1	11.9	11.2	16.5	59.8	-43.3	45.5	11.4	34.1
No	27.5	10.2	17.3	25.8	63.2	-37.4	56.1	15.4	40.7
Vocational Concentrator									
Yes	31.3	12.9	18.4	15.0	56.3	-41.2	60.8*	15.9	44.9
No	23.3	10.4	12.9	24.8	63.3	-38.5	47.0	12.7	34.4
9th Grade Grade Point Average Ranking									
In top half of class	19.5*	12.0	7.5**	16.9	58.4*	-41.5	50.7	12.6	38.1
In bottom half of class	32.8	9.5	23.2	26.5	65.7	-39.3	51.9	14.4	37.5
Sample Size: 2300									

SOURCE: STW 12th grade survey in spring 1998, Mathematica Policy Research, Inc. and student transcript data.

NOTE: The figures presented in this table are estimated probabilities of employed members of these subgroups obtaining jobs having certain quality attributes, controlling for the schools that students attend and any observed differences in the background characteristics of those who obtained jobs through school and independently.

*Significant difference in the rate of estimated quality across subgroups, at the .05 level, two-tailed test.

**Significant differences in the rate of *increase* in estimated quality across subgroups when students find positions through school rather than independently, at the .05 level, two-tailed test.

TABLE 3

DIFFERENCES IN THE QUALITY OF UNPAID POSITIONS FOUND INDEPENDENTLY AND THROUGH SCHOOL, BY SUBGROUP: CLASS OF 1998

	Received Evaluation from Employer or School Staff			Work Linked to School by Grade			Discussed Careers with Employer		
	Through School	Not Through School	Difference	Through School	Not Through School	Difference	Through School	Not Through School	Difference
All Students	33.2	28.7	4.5	50.9	14.9	36.0	38.8	39.0	-0.2
Gender									
Male	32.6	26.4	5.4	48.2	17.8	30.4	36.5	40.4	-3.9
Female	35.0	27.2	8.5	48.7	14.5	34.2	40.5	37.8	2.6
College Preparatory Curricula									
Yes	29.9	29.8	0.1	42.2	20.9*	21.3**	36.9	47.5*	-10.7**
No	38.0	22.3	15.7	54.3	8.2	46.1	41.0	26.3	14.6
Vocational Concentrator									
Yes	38.9	29.1	9.8	66.4*	5.5*	60.9**	50.4	26.8*	23.6**
No	32.7	26.2	6.5	43.5	17.7	25.8	35.8	41.1	-5.3
9th Grade Grade Point Average Ranking									
In top half of class	31.9	31.7*	0.2**	39.9*	17.3	22.6**	38.1	38.0	0.1
In bottom half of class	37.2	22.1	15.1	56.0	14.8	41.2	40.6	39.9	0.8
Sample Size: 2300									

SOURCE: STW 12th grade survey in spring 1998, Mathematica Policy Research, Inc. and student transcript data.

NOTE: The figures presented in this table are estimated probabilities of employed members of these subgroups obtaining jobs having certain quality attributes, controlling for the schools that students attend and any observed differences in the background characteristics of those who obtained jobs through school and independently.

*Significant differences in the rate of estimated quality across subgroups, at the .05 level, two-tailed test.

**Significant differences in the rate of *increase* in estimated quality across subgroups when students find positions through school rather than independently, at the .05 level, two-tailed test.

While positions outside the retail sector are more likely to correspond to students' diverse interests, they also tend to offer fewer hours of employment, thereby reducing students' earnings opportunities.[26] Female students may be more willing to sacrifice hours of employment for an opportunity to explore a career interest. In any case, these findings suggest that schools face greater challenges placing male students in diverse industries.

- ***Vocational concentrators with school internships are more likely to draw on work experiences at school and discuss careers with employers.*** Vocational programs traditionally encourage students to participate in internships linked to a class. Indeed, the 12th-grade student survey and transcripts indicate that vocational concentrators were more likely than other students to have their work experiences affect a course grade when they found their positions (paid or unpaid) through school rather than on their own (Tables 2 and 3).[27] Moreover, among those with unpaid jobs, school internships also substantially increased vocational students' chances of discussing careers with their employers, relative to the jobs they found on their own (Table 3). These findings, although not surprising, highlight the fact that most vocational classes can provide a natural forum for integrating work and school-based learning. Forging these connections is often harder for students who are not taking any classes directly related to their career interests. For example, students taking a college preparatory curriculum were less likely than others to perceive connections between their workplace and school experiences when they found a position through school (Table 3).

- ***For low-performing students, paid and unpaid positions developed by schools appear to offer some advantages over positions they find on their own.*** Students ranking in the bottom half of their 9th-grade class were more likely than their high-achieving peers to enhance the quality of their paid and unpaid positions when they obtained them through school. Among those with paid jobs, low-ranking students increased their chances of receiving at least half-time training when they obtained their position through schools rather than independently (Table 2). In addition, among those with unpaid positions, low-performers were more likely than others to receive evaluations on their worksite performance from employers or school staff and to have their internships count toward course grades (Table 3). Schools and employer staff may be contributing to this pattern if they perceive that low-performing students need more training and feedback than do their high-performing peers.[28]

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[26]Among male students who obtained paid internships through school during the academic year, those with positions in the retail industry worked an average of 20.2 hours per week, compared with an average of 17.8 hours per week for those in nonretail positions. Comparably, female students in paid internships worked an average of 24.0 hours per week in retail positions and 16.1 hours per week in nonretail jobs.

[27]Although vocational concentrators were not significantly more likely than others to have a paid position linked to school by a grade, the magnitude of the finding was substantial.

[28]The performance evaluation measure used in this analysis reflects evaluations by both school

(continued...)

3. Recent Changes in the Quality of Extended Work-Based Learning Activities

Site visits to STW partnerships identified many efforts to strengthen traditional work experience programs or to create new programs with high-quality workplace components. One ingredient in strengthening traditional programs is to ensure a higher level of staff involvement in developing, selecting, and monitoring workplace activities. Many schools have sought to expand or enhance internship programs even though few new resources were available. Comparisons of the workplace activities of the class of 1996 and class of 1998 point to two types of changes in schools' paid and unpaid work experience programs:

1. ***Closer Monitoring of Paid Internships.*** Whether as a result of improvements in traditional programs or the introduction of new programs, some signs suggest that school personnel are more involved in monitoring and supporting paid internships. Students in the class of 1998 who had obtained paid positions through school were more likely than those in the class of 1996 who had obtained these positions to report having talked about their work experience with school staff (Figure 8). Perhaps as a result of this increased monitoring, a small positive shift appears to be emerging in other quality dimensions, such as the extent to which students discuss career issues with employers and the fraction of students receiving evaluations from school and employer staff; however, these other changes are not statistically significant.

2. ***Decreasing Support for Training and Work-School Links in Unpaid Internships.*** Unpaid worksite activities that students obtain through school appear to be changing in ways that reduce students' opportunities to learn about and prepare for careers of interest. For example, students in the class of 1998 who held such positions were less likely than those in the class of 1996 to say they had spent more than half their time at the workplace in training, had ever discussed career issues with employer staff, or had received an evaluation of their worksite performance from employer or school staff

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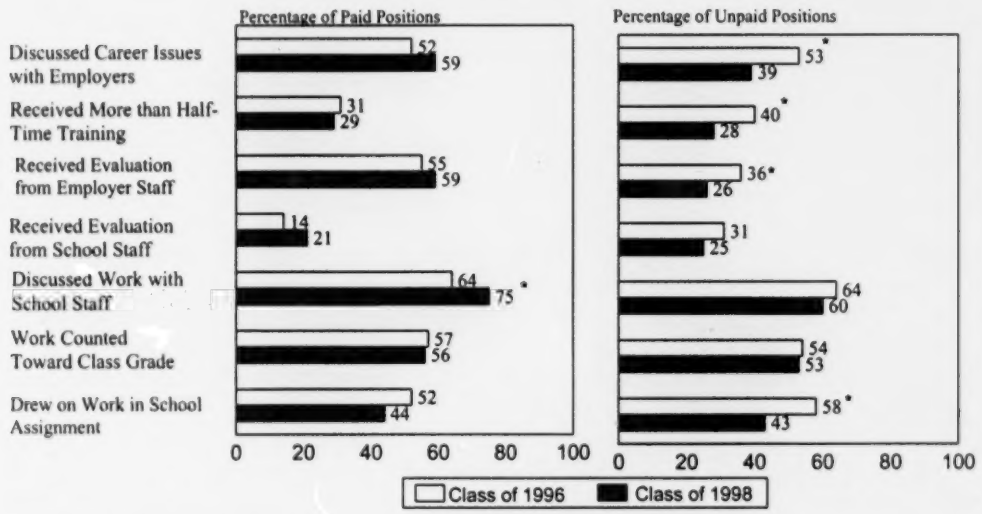
[28](...continued)
staff and employers. Approximately 70 percent of the difference in the likelihood of low- and high-achieving students receiving a performance evaluation is explained by evaluations from their employers. The rest reflects differences in the proportion being evaluated by school staff.

(Figure 8). One explanation for these changes is that some states and schools appear to be emphasizing brief community service experiences, which tend to focus more on providing service rather than on learning about or preparing for careers.[29] Indeed, many state and local community service initiatives are not closely connected with STW programs, which perhaps reflects the STWOA's emphasis on paid versus unpaid work-based learning.

FIGURE 8

SELECTED QUALITY INDICATORS IN POSITIONS OBTAINED THROUGH SCHOOL: CHANGES FROM 1996 TO 1998



SOURCE: STW 12th-grade student survey, spring 1996 and spring 1998, Mathematica Policy Research, Inc.

*The difference between the class of 1996 and class of 1998 is significant at the .05 level, two-tailed test.

E. THE VALUE OF WORK-BASED ACTIVITIES IN CLARIFYING CAREER GOALS

Examining the value that students attach to STW activities can help partnerships to weigh their priorities for additional implementation efforts. Data on students' views must be used with caution, however, because their judgments are not evidence about the impacts of STW activities on their

[29]The student survey shows a decrease from 1996 to 1998 in the number of students reporting unpaid internships, from 53 to 42 percent, and a corresponding increase in reports of "volunteer work." National surveys of local partnership coordinators indicate substantial growth in the availability of community service between 1996 and 1997.

success. Moreover, only students who participate in a particular activity can discuss their perceptions about the activity. The groups are largely self-selected, so they offer no information on the extent to which students who currently do not participate would appreciate the activities or would find them effective. Nonetheless, students' perceptions are an important source of information on how activities can shape career goals.

A postsecondary follow-up survey of the class of 1998 sheds light on which high school work-based activities students perceived, in hindsight, as helpful in clarifying their career goals. In this survey, conducted about 18 months after high school graduation, students were asked about the value of various high school activities in helping them to decide what kinds of careers interested or did not interest them. These data shed light on three specific issues:

1. The work-based learning activities students perceived as most helpful in clarifying their career goals[30]
2. The extent to which students who changed their career goals after high school and those whose goals remained the same had differing perceptions of specific high school activities
3. The characteristics of students who attached the highest value to work-based activities

1. Value of Work-Based Activities in Clarifying Goals

Work-based learning activities can help students to clarify career goals in both positive and negative ways. Some activities may confirm a tentative interest in a career. Others may lead students to reconsider a tentatively or even firmly held goal or assumption about their future. Thus, regardless of whether the experience is a positive or negative one, it can be helpful. To inform

[30]Students were asked to indicate whether each work-based activity in which they had participated during high school was "very helpful," "somewhat helpful," or "not helpful at all" in "figuring out what you want to do or don't want to do in a career."

students' decisions either way, work activities usually must provide a clear sense of what it is like to work in a particular job, occupation, or industry.

The most highly valued work-based learning activities were those that involved an experience tailored to the individual student (Figure 9).[31] Students gave high marks to job shadowing, as well as to paid jobs and unpaid internships obtained through school. In contrast, two other work-based activities--group worksite tours and school-based enterprises--were viewed as somewhat less helpful in clarifying career goals. These findings suggest that students may need more individualized experiences and, perhaps, some one-on-one contact with an adult employee (which worksite tours and school-based enterprises rarely provide) to get a sense of the kinds of jobs available in an industry, and to clarify their goals. In addition, internships and job-shadowing experiences may engage students more fully, as they often require a student to help plan the activity and report on the experience after it is completed.

2. Value of Work-Based Activities to Students Who Change Goals

Since young people's ideas about their futures are often volatile, there is certainly reason to question how much a high school work activity can help students to refine their career goals. In the evaluation sample, for example, 38 percent reported during the follow-up interview that they had changed their career goals at least once during the 18 months after high school.

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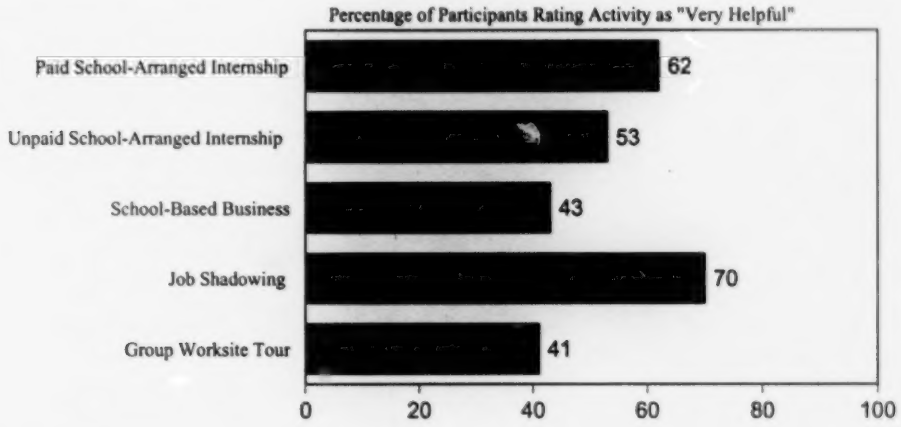
[31]Findings on students' ratings of the value of work-based activities should not be interpreted as indicating which activities they favor over others. Each type of activity engaged students at different rates, and only those who participated rated each activity. The fact that few students participated in an activity but rated it highly does not necessarily imply that the activity deserves more emphasis from partnerships than another activity that involved far more students who gave it only modest praise.

FIGURE 9

PERCEIVED VALUE OF STW ACTIVITIES IN CLARIFYING CAREER GOALS: CLASS OF 1998



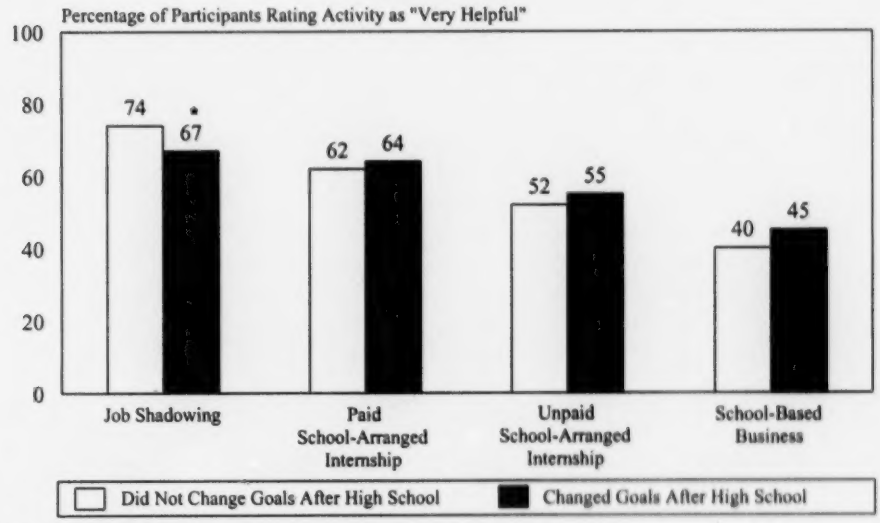
SOURCE: STW postsecondary follow-up survey, fall 1999, Mathematica Policy Research, Inc.

However, whether students retained or changed their career goals does not necessarily affect the perceived value of work-based activities, particularly the more intensive work and training experiences. The fraction of graduates who, in hindsight, reported that paid and unpaid high school internships were very helpful in clarifying their career goals was nearly the same for those whose goals had changed after high school as for those whose goals remained the same (Figure 10).

Compared with those whose goals changed, students whose career goals remained the same after high school valued short-term job-shadowing experiences somewhat more highly. This finding suggests that job-shadowing experiences may be most helpful in confirming career goals or in refining career goals during high school, but that they are somewhat less likely to provide insights about alternative career options for those whose goals evolve after graduation. More intensive workplace experiences, such as internships, may help students to discern the types of tasks that they

FIGURE 10

PERCEIVED VALUE OF STW ACTIVITIES IN CLARIFYING GOALS, BY WHETHER STUDENTS' GOALS CHANGED: CLASS OF 1998



SOURCE: STW postsecondary follow-up survey, fall 1999, Mathematica Policy Research, Inc.

*The difference is significant at the .05 level, two-tailed test.

do well or enjoy. In this way, these experiences may help students to identify appropriate careers well after their internship experiences have ended and their career goals have changed.

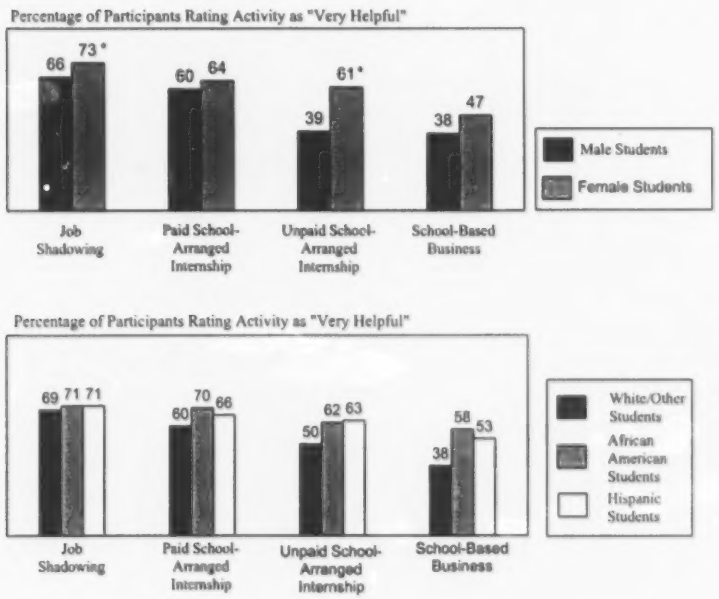
3. Value of Work-Based Activities Perceived by Subgroups

In the long term, information passed by word of mouth from one class of students to the next about experiences in work-based activities is likely to affect whether schools can engage a broad cross-section of students in these activities. Therefore, it is important to examine whether assessments of high school work-based learning activities varied across different student groups defined by demographic characteristics and urbanicity. In general, ratings were consistent across student groups, but female and minority students stood out with respect to the value they placed on work-based activities.

Female students in the 1998 sample of high school seniors appreciated work-based activities more than did their male counterparts (Figure 11). Although statistical significance varied, female students who participated in work-based activities were consistently more likely to report that the activity was very helpful in clarifying their goals. The gaps between male and female participants' assessments were largest in the case of job shadowing and unpaid jobs obtained through school.[32]

FIGURE 11

PERCEIVED VALUE OF WORK-BASED ACTIVITIES IN CLARIFYING GOALS, BY STUDENT SUBGROUP: CLASS OF 1998



SOURCE: STW postsecondary follow-up survey, fall 1999, Mathematica Policy Research, Inc.

*The difference between male and female or among white/other, African American, and Hispanic students is significant at the .05 level, two-tailed test.

[32]In addition to the activities shown in Figure 11, the survey found that female participants gave high ratings more often than did male participants to vocational courses, unpaid jobs obtained through school, and school-based enterprises. However, these differences were not statistically significant on the basis of the available sample sizes.

The differences in the value that male and female students place on work-based activities may, through word of mouth within each group, contribute to differences in each group's participation rates. As discussed, female students are somewhat more likely than male students to participate in both brief work-based activities (such as job shadowing) and more intensive jobs and internships. The higher value that female students attached to these activities may contribute to a continuing gender gap in participation rates.

It also appears that African American and Hispanic students may attach a higher value to work-based activities than do white students. These differences were most apparent in the students' assessments of school-based enterprises and the intensive jobs they obtained through school (Figure 11). However, due to sample sizes, these differences are not statistically significant.

F. OUTSTANDING ISSUES AND CHALLENGES

The STW movement has been more successful in expanding job shadowing than in increasing the number of students in longer-term internships that STWOA emphasizes most. Interest in involving a large and diverse group of students appears to have led schools to focus on expanding brief workplace activities that can be developed easily and quickly. Although students value job-shadowing experiences for their help in clarifying career goals, these experiences rarely are designed to develop or reinforce particular competencies--a key goal of the more intensive work-based activities. Several factors appear to constrain growth of these intensive activities. The high cost of developing and monitoring internships appears to have limited the number of students involved. By placing the highest priority on paid activities, STWOA may have indirectly led partnerships to place less emphasis on unpaid work experiences, so that some schools and students have come to view unpaid work only as an opportunity to perform community service, failing to take advantage of the chance to clarify career goals and apply or develop skills. Perhaps the most important constraint on

the development of work-based learning has been the concern that these activities may interfere with students' academic studies.

Although schools' work-based learning programs retain many attractive features, advocates of work-based learning must broaden the appeal of these programs. Compared with the regular jobs most students obtain, the paid and unpaid workplace activities that schools develop appear to offer more structured learning opportunities. However, any national effort to expand internship programs must include a strategy for addressing the concern that internships may distract students from their studies and thereby limit their future educational or career options. More generally, expansion of work-based activities is unlikely to occur unless educators perceive that these activities provide valuable learning opportunities. STW advocates could respond to these challenges and concerns in at least four ways.

First, to enhance work-based learning activities, and to make them more attractive to educators and parents, schools could forge stronger connections between students' workplace experiences and the school curriculum. Although many students report some connections between their internships and assignments at school, case study evidence suggests that these connections are sometimes superficial. Because few employers are willing and able to substantially reconfigure students' work activities to reinforce a school's curriculum, school staff and students must be creative in finding ways to make use of workplace experiences. For example, teachers could try to develop more projects that involve some data collection in a workplace or that generate a report that a student's employer can review. However, work-based learning advocates should not underestimate the challenges involved in making meaningful connections between the academic curriculum and work-based activities. Forging these connections requires substantial commitment from teachers, employers, and students.

Second, to win support from school staff, it may be wise to limit the duration of paid work-based activities and schedule the activities so that they do not conflict with students' regular classes. Teachers might endorse work-based learning activities if they were sure these activities were substitutes for regular after-school jobs that provide fewer learning opportunities. Even if these activities have this advantage, however, work-based learning advocates are likely to have difficulty securing teachers' support unless internships are scheduled appropriately, with only a moderate amount of time at the workplace.

However, there are potential costs to reducing the amount of time students can spend in an internship. For example, brief paid workplace activities appear to provide few opportunities for students to perform tasks that require technical or academic skills learned at school or to receive formal performance reviews. Many students and employers do not seem to take brief internships seriously. It might be wisest to develop internships of intermediate intensity (say, 12 to 20 hours per week for at least several weeks).

Unpaid activities must last long enough to provide opportunities to learn about an issue or to reinforce specific skills. Modest increases in the intensity of unpaid activities may help to enhance their quality. In addition, the emphasis on community service should not displace other learning objectives. Although schools should continue to encourage students to perform some volunteer work, school staff could take greater advantage of these activities, requiring students to think in advance about particular questions or issues they will explore during these experiences and analyze in a subsequent paper or project.

Third, to attract some of the groups currently under-represented in work-based activities, schools may need to develop even more diverse and attractive workplace learning opportunities. Although schools have been successful in engaging a fairly diverse mix of students, male students are under-represented in most activities. The gaps between male and female students' participation are

particularly striking for unpaid activities and job shadowing, but they are also apparent for paid positions. It remains to be seen whether more males can be encouraged to accept unpaid internships; males' apparent focus on earning short-term financial rewards from work may be difficult to overcome. However, schools could try to explore more carefully the types of workplace opportunities that appeal to male students and make sure these are more widely available.

Finally, to mobilize more support for work-based learning, work-based learning advocates may need to cultivate greater public appreciation for the types of competencies and knowledge that work-based activities are best suited to develop. Work-based activities occasionally can reinforce academic competencies, but this characteristic may never be their most important asset. Even when internships are connected to the school curriculum, they may not provide many opportunities to practice or reinforce academic skills. However, carefully designed internships do often provide opportunities to perform challenging tasks, receive feedback from employer and school staff, and learn about the world of work. These kinds of experiences have the potential to cultivate students' ability to define and solve problems, work productively with others, and develop a sense of self-confidence and direction. Whether or not these developmental benefits lead to higher levels of academic achievement, they can contribute to students' success in the labor market and in life. The burden will fall on work-based learning advocates to demonstrate that internships cultivate these competencies and to persuade parents and school staff that they will expand, rather than limit, students' career options.

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